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#### cover

Much custom activity can be found on this month's cover. Paul Lahrhe radically restyled Pontiac (top) will affer numerous innovations to the many Chieftain tribe members while Jerry Sahagon's club coupe wi sufficiently wet the appetite of the stoveholt clan.

- Anscedireme by D'Olivie and Ricks

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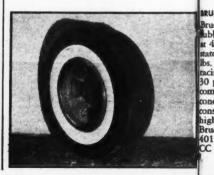
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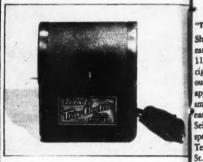
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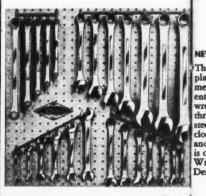
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ONE MAN'S OPINION

Dear Sir:

What's this stuff about 1/4 Midgets in the December issue? These "cars" are for kid from 8 to 12 years old. I'm pretty sure the there aren't many 8 year olds reading you magazine. In the future let's keep this stal out of your otherwise good magazine.

On the other hand, I really enjoyed "No body Swindles McSpindle". I would like see more of these but not so often that it would "kill" it.

How about featuring a Chev V8 engin swap into '49-'51 Fords?

- Iim Cogelow. St. Louis Park. Minn.

And there you see the kind of letter we li to receive - constructive criticism, telling what's liked and disliked, and with a suggestion for an article that would be welcomed in the future. Letters like this are what makes I possible for the Car Craft staff to cater to the majority of readers - if you agree with Jim in Cogelow, let us know. Carl Kohler humor and 1/4 midget features are the hot topics right now of o - let's have your opinion,

#### AND ANOTHER . . .

Dear Sir:

but I've been reading your magazine for ser I'm eral years now and have given up buying adap other publications. read

I have only one gripe! Every issue I pid tiac up seems to be full of nonsense about 1/4 Midgets. These "midgets" have no place in a magazine like yours. If you want to print wee stuff like that, why not publish another magazine for midget enthusiasts?

> - Bob Salkin, San Fernando, California

So how about that? - Ed.

#### HE LIKES 'EM

Dear Sir:

I've read the excellent articles on Quarter Stas Midgets in recent issues of your magazine izers Since racing is a hobby of mine, being apho driver and former secretary of the United cool Auto Racing Association, I have put some of pull my thoughts on Quarter Midget Racing on paper, hoping they might be helpful in furthering the progress of this interesting sport. It's A limited number of copies of suggestions for organizing a QMR club are available from me to interested groups. There is no charge, but requests should be signed by at least ten members of the interested group. Address requests to:

- John Meyers. 7759 S. Crandon Ave. Chicago 49, Ilinois

And there's the other side of the coin .- Ed.



PONTIAC PRAISE

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We have a few hustling machines up here Jim in Pontiac, Michigan - the land of the "antihot rodders". The picture shows the owner aná now of our hottest local Merc flathead getting his hands dirty working on the Buick OHV going in my customized '49 Ford - should be in and running by the time you receive this, but that's a crime for a flathead man isn't it? see I'm using a Cadillac stick-shift box with an ying adaptor of my own design - if any of your readers want one for Cad box to Buick, Ponpid tiac, or Olds, have 'em write me for prices.

I can't wait until my CAR CRAFT comes every month - I wish it came out every two weeks!

> - lack Morris. Pontiac, Michigan

#### SOOZA-PHONE

Dear Sir:

Read CAR CRAFT like crazy; have a loose green so am subscribing for six months when time's up I'll dig for twelve months. rter Stashed neatly are CAR CRAFT, the customne izers' favorite car mag. Why not drop your a photo flashers by some time? We have a few ted cool kemps down this way. Keep up the swell of pulp-print.

> - Johnny Sooza, Visalia, California

ort. it's like too piercing, man.— Ed.

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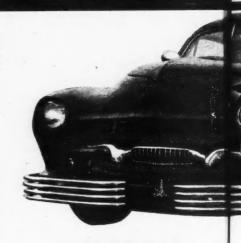


## THOSE MARVELOUS MERCS

ABOVE · Sonny Morris with the only car he's ever owned—the result of three years of intensive restyling. Mirage Blue in color, the unconventional exterior is matched by the blue and white Naugabyde interior done by San Leandro, Calif.'s Seat Cover Co.

CENTER • Ground-bugging look is no illusion, stems from 6" lowering blocks in the rear, removal of 1½ coils from front springs. Morris did bis own engine swap; installed a '52 Olds V8 with Hydramatic. Appleton spotlights give a visual "chop" to the top from this angle.

RIGHT • Bailon's Custom Shop modified original Merc grille cavity beyond recognition; substituted '56 Plymouth bar, backed with expanded metal. Hood was filleted into body, resectioned for new opening incorporating interesting scoops for a truly different look.







cs4

Bumpers, both front and back, are quadruple round-rod, terminate in '49 Ford guards flanking the license plate in the rear. '56 Buick lenses are used in borizontal position for new twist.

OWNER Sonny Morris MODEL '50 Mercury





Headlights are deeply tunneled in heartshaped opening. Fender extensions french into solid pan backing round-rod bumper.





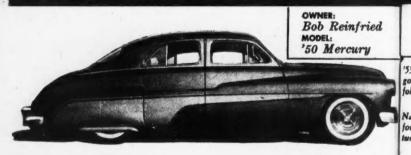


An 11" section was taken from the '55 Chrysler bar used as a grille. Frenched headlights were' built-up around '54 Merc rings Rounded hood corners contrast smooth look against louver,

BELOW • Side view shows-of two-tone maroon and gold finish to best advantage. Colors are divided by '55 DeSoto side trim, Eleven gallons of lacquer were required to complete the job,

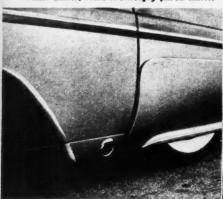
continued

## THOSE MARVELOUS MERCS



Buick portbole trim garnishes the side exbaust outlet, Note the deeply flared skirts. Round rod fillets taillight lenses into the tail body contours. Reflector was removed, pla

Fil







Lower by 8" than it started out, Sauer's Merc shows that the best things in life are simple - note the subtle change of line that is gained by shortening the front trim strip.

## 49-50-51

Photos by Bob D'Oliva

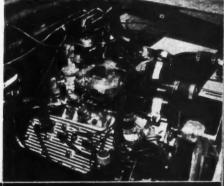
OWNER:
Philip Sauers
MODEL:
'51 Mercury

from

'53 Merc engine's complement of speed goodies includes Weiand beads and manifold, with big-bore Carter four-throat.

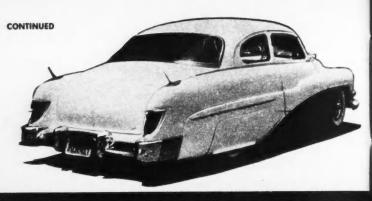
Narrowed '55 DeSoto grille is a natural for these Mercs. Headlights are mildly tunnelled using standard '51 Merc ring.

Filled-in fenders accent the humper-guard the taillights, hewn from a solid block of red wed plastic. Note the thru-tip pipe outlets.







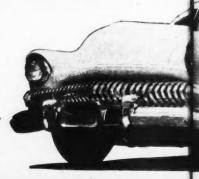


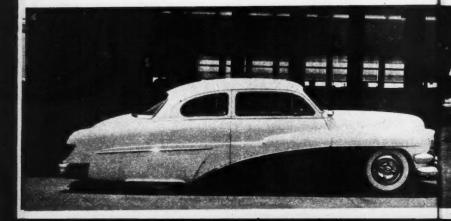
## THOSE MARVELOUS MERCS

ABOVE • '55 Lincoln taillight lenses installed in an inverted position blend well with the stock body contours of the '51.

RIGHT • One of the modifications on this car can be duplicated by any Merc owner at home – adding more bars to the grille.

BELOW · Buick trim spear separates white and gold two-tone enamel paint job. Note a bint of a trim strip over the skirt.



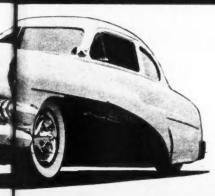


RIGHT • "X-tension Brow" was used to bring headlight appearance up to date. '49 humper guards give better balance.

Photos by Bob Hardee



49-50-51

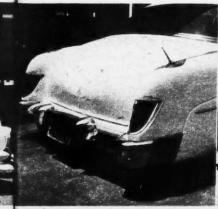


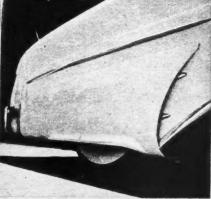
OWNER:
Picho Portillo
MODEL:
'51 Mercury

CONTINUED

BELOW · Scooped, flared, toothed, speared - these skirts have the full treatment.

Note extreme lowness from "C" framing.





## THOSE MARVELOUS MERCS





ABOVE • '55 Ford grille and '50 Chee parking lights are different features. Chrome mesh is used for park light lens.

LEFT • Cut-down'54 Merc taillight lenses substitute for the stock items. The fine-line pin striping is done in a subtle white.

BELOW • Side trim is composite of '50 Ford and '55 Buick, separating Beryl Green from off-white contrasting enamel color.



uti

## -50-51

OWNER: Hank Bisetti MODEL: '49 Merc

BELOW, LEFT . '49 Buick taillights fair nto stock fender line. Thru-tip exhausts re from '52 Cad, frenched into bumper.

BELOW . Unique front bumper treatment imitates grille design; affect achieved with chrome-molly tubing bent to shape, plated.

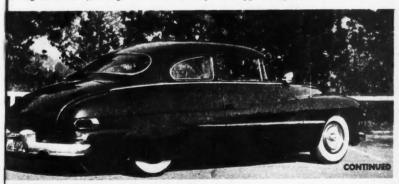


BELOW . Grille was hand formed from. flat stock, slotted for truly different look.





BELOW . Extreme lowness was obtained thru a combination of lowering blocks, coil cutting and "A" framing. Finish is Moon-glow Copper lacquer, a brilliant brown.



lens

nse

bite. 150 reen lor

## THOSE MARVELOUS MERCS





bumper guard, rounded bood smooth lines

49-50-51

OWNER: Buddy Alcorn MODEL: '50 Mercury



corn ABOVE • Chopped at an angle, the top is 4" lower in front, 7½" less than stock in 36 belie rear. Hub caps are chromed Olds with custom spinners added. Side trim is comboo posite; Top strip from '55 Chev, curved member from '55 Dodge wraps around scoop.



Photos by Al Paloczy



itia '55 Plymouth taillights gleam redly from Deep Purple lacquered body. Thru-exhausts

one: and Pontiac guard modify appearance of '52 Ford rear bumper beyond recognition.

# POWER TO STOP



22

CAR CRAFT

### By DON FRANCISCO

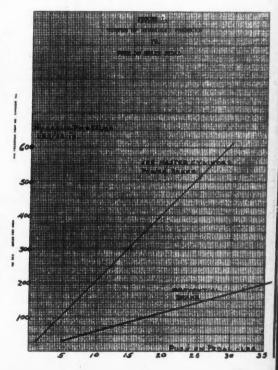
DURING THE LAST two or three years power brakes have become one of the more popular options on new cars. The reason for this is that many makes of cars have become or large and heavy that it is a problem to stop them at normal cruising speeds without some sort of assist on the brake pedal to lighten the pressure that must be exerted by the driver. And even on some of the lighter cars power brakes are nice because they make driving easier, especially in traffic. In a light car power brakes are not absolutely necessary as far as stopping bility is concerned because even with a conventional master cylinder pedal pressure is seldom too high for comfort; however, they offer other advantages, such as making it possible to use harder brake lining and still have light pedal pressure, and making it easier to drive with "left-foot" braking in cars equipped with automatic transmissions.

The stock brake lining installed on most new cars is usually of a soft type to reduce the pedal pressure required to stop the car. This is good as far as driving comfort is concerned but such a lining has a short life in comparison to those that are of harder and more durable composition. With a conventional brake system that does not have a power assist of some kind hard lining can raise the pedal pressure so high that the normal person cannot com-

CONTINUED

ABOVE, LEFT: Test rig used for compensions between stock master cylinders, both with and without the JEB booster unit, allows direct checks on new device's effectiveness. Readings obtained are graphically illustrated on chart at right.

RIGHT: Upper line on chart shows pressure generated in bydraulic system for given amount of pedal pressure, listed along bottom. Lower line shows lesser pressure obtained with same pedal pressure using unmodified standard master cylinder.

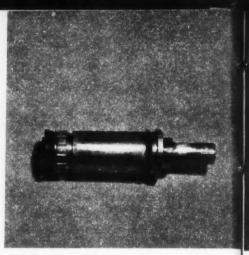


## POWER TO STOP

continued

RIGHT: JEB booster unit replaces stock master cylinder innards. Installation should be made without dismantling.

FAR RIGHT: Disassembled, JEB unit shows simplicity of piston within piston principle explained in accompanying text.



fortably exert sufficient pressure to stop the car, but with a power booster it is possible to take advantage of the longer life of hard lining and still have reasonable pedal pressure.

Left-foot braking has its pros and cons but it is the easiest way of getting a car through traffic. With the left foot on the brake and the right foot on the throttle one can go or stop at will with a minimum of foot movement. There is no "off and on" movement of the right foot from the throttle to the brake while the left foot remains stationary.

Conventional power brakes that come as standard or optional equipment on passenger cars are of the "vacuum assist" type. The vacuum created in the intake manifold of the engine is metered to one side of a piston by movement of the brake pedal and then atmospheric pressure acts on the other side of the piston to actuate the master cylinder and apply the brakes. This is a good system in that the vacuum is free - the braking system does not require any of the horsepower developed by the engine, such as is required by many of the other power accessories now used on automobiles. However, vacuum assisted brakes have the disadvantage of losing some of their boost at high altitudes, and losing all their boost when the engine isn't running. It is seldom that brakes are needed when the engine isn't running but if they are it takes a good man to apply those that have a vacuum booster.

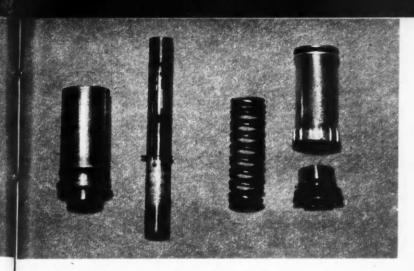
Power brake kits consisting of vacuum assist units and the necessary fittings and pieces to install them on a car are available now for most new cars and many of the older on a many but they are priced rather high and present form more or less complicated installation proof in dure. If the fellow who owns the car cap rake install one of these units himself he must pake as someone to do the job and this adds consider master ably to the overall cost, and cost is usually the governing factor on a project of this type.

governing factor on a project of this type.

Another type of power brake that has bee ide pavailable for a long time now for use primar ily on trucks but which can be adapted the primary old and new passenger cars is one the near does not require any vacuum to help apply diff the brakes. This unit operates entirely oxiple hydraulic principles to give greater than not hing mal pressures in the brake lines with a minuted mum of effort on the brake pedal. However to install this unit on a car it is necessary myster replace the stock master cylinder with a special to vacuum. This usually involves considerable now work in the form of adapting the brake lines the and pedal linkage to the new cylinder. Anothin another thing against these special cylindering pis their price. They cost slightly more than or eithe average fellow wants to pay; consequently lines they aren't too popular.

they aren't too popular.

But things are looking up for the fellowisson who would like power brakes on his car but who is operating on a limited budget. Now there is a power brake conversion unit on the gamarket that eliminates most of the undesirable features of the other available types and makes and it easy for anyone to enjoy the advantages obecis power brakes with minimum expense and reast installation difficulties. This conversion unit the



on manufactured by JEB Industries, 6235 Santa ent Monica Blvd., Los Angeles 38, Calif., and it from an be installed on any car that has hydraulic can rakes. It is a new type of piston that replaces to the stock piston and cup assembly in the car's identification of the parties of the property of the p

mar The JEB unit operates on the "piston-withd on-a-piston" principle. This is not by any thancans a new principle but the JEB adaption pells different. To understand the way this principle functions it is necessary to know some-nothing about hydraulic leverage and how it is

ninised to apply the brakes of a car.

the transmission acts of the system of the average car operates something cialite this: A master cylinder, which contains a able to valle piston actuated by the brake pedal ince the car, is connected by means of suitable and being to other cylinders mounted on the backets g plates that support the brake assemblies has to each of the wheels. Each of the wheel try ylinders has a pair of pistons that are linked to the brake shoes in such a manner that each ownston can exert pressure on one end of one buff the shoes and force the shoe against its ownstake drum to help stop the drum from turnting and, in turn, stop the wheel and the car. ble The master cylinder, the wheel cylinders, keeped the lines that connect them contain a objectial fluid that is used to transmit force indeated in the master cylinder to the pistons might the wheel cylinders. This force is created

by moving the piston in the master cylinder, by means of the brake pedal, to reduce the volume of the cylinder, and, consequently, the volume of the entire brake system. This action automaticaly raises the pressure of the fluid in the system. The reason for this is that, for all practical purposes, liquids are not compressible; therefore, any pressure exerted on the fluid by the master cylinder piston is transmitted to all parts of the brake system.

The larger the diameter of the master cylinder piston, the greater will be the pressure in the brake system for a given distance of piston movement; however, as the piston becomes larger, the pressure that must be exerted on the brake pedal to move the piston in the cylinder also becomes greater. As the diameter of the piston becomes greater, the pedal movement required for a given pressure in the cylinder becomes shorter. Trying to obtain a combination of piston diameter and pedal travel that will give adequate pressures in the brake systems to stop the car and still allow moderate pedal pressure with minimum pedal travel is the big problem when one is trying to design a master cylinder.

The piston-within-a-piston arrangement is the most logical step toward adequate brake pressure with low pedal pressure without any outside assistance to move the pedal. The reason such a system works so well is that nearly all of the fluid that must be displaced in the brake system to apply the brakes can be moved by exerting a comparatively low pressure on the master cylinder piston. This

## POWER TO STOP

continued

fluid must be displaced to move the brake shoes far enough to take up the clearance between their friction surfaces and the brake drums. It is only after this fluid has been moved that a high pressure can or must be created in the cylinder. The amount of fluid that must be moved to build-up the high pressure is very small but to create the pressure with a conventional master cylinder it is necessary to exert a high pressure on the pedal.

With a piston-within-a-piston arrangement, the large quantity of fluid which must be displaced before the high pressure is needed is moved by a piston of large diameter that requires a minimum of pedal movement. Then, the necessary pressure to force the shoes tightly enough against the drums to stop the wheels from turning is created by a smaller piston, in the center of the large piston, that is moved easily against the pressure in the cylinder because it is small in diameter and therefore displaces only a small quantity of fluid. The small piston comes into action automatically when there is a pressure of approximately 110 pounds per square inch in the cylinder and then it boosts the pressure to

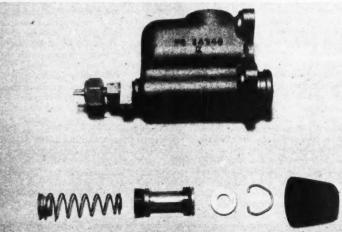
whatever value is necessary to stop the whe use A pressure of 200 to 400 pounds in the syst ain is said to be enough to stop an average car foot ordinary speeds. The actual ratio of press will boost provided by JEB units varies between three and four to one, depending on the ore, for which the specific unit is designed.

By coming into action after all the larger has been taken out of the brake shoes and the Shottler.

By coming into action after all the largerd has been taken out of the brake shoes and the Sho linkage, the small piston must move only safe small quantity of fluid to raise the pressuing in the system high enough to stop the wheetakes But with any gain in leverage that is realized by piston or lengthening the diameter of a hydraudy spiston or lengthening the lever that moves hism there must be a compensating increase in the distance through which the end of the lew moves; however, by using the small pister only to raise the pressure after all lash heen taken out of the brake members, the increase in pedal movement is kept at a min mum well within practical limits. If the smalpiston were used to move all the fluid the must be moved to take the lash out of the brake members as well as create the pressure fing ment would not be practical.

Total brake pedal movement required by ap an average JEB unit in a car with correctly by adjusted brakes is approximately 1% inchesist over and above the normal free pedal cleators ance. Approximately 1-inch of this movemen not

Stock components of master cylinder consist of (left to right): Plug, spring, pistolepla washer, clip, and cup. Replacement with JEB unit is quick and easy for any mechanise-u



when used to move the large piston and the re-e syst aining %-inch to move the small piston. the car f course, if the shoes aren't adjusted correctly press will take more than 1-inch of pedal move-betweent to move them out to the drums; howthe ear, it doesn't take more than \%-inch of overment to move the high-pressure piston, he largardless of shoe adjustment.

nd the Short brake pedal movement is important only safe driving. If the pedal movement is too oressung it takes too much time to apply the whee akes in an emergency. The answer to this calia oblem is to keep the shoes adjusted as drawey should be and have an actuating mech-oves hism that builds up pressure in the brake in the with a minimum of pedal movement level pressure. The extra time that it might pistoke to apply the brakes if the pedal movesh hent were too long might make the difference tween stopping and not stopping.

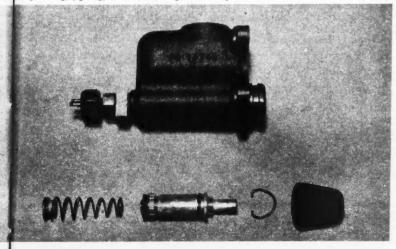
The JEB units consists of aluminum and theel parts throughout and all the seals used in of th with the exception of the large piston cup, essure "O" rings of natural rubber. Seals of the move ring type have the ability to seal under high draulic pressures and they become popular ed by applications of this type as a result of their rect by the aircraft industry. Natural rubber ache used for the seals and cups used in cleantomative hydraulic brake systems because it men not affected by the fluid used in the systems.

Other types of rubber swell or disintegrate when they are immersed in fluid of this type.

The IEB power brake unit has a safety factor equal to that of a stock piston and cup assembly. In the event of failure of the seal on the small piston, which isn't likely because of the design of the unit and the material used in it but still not absolutely impossible, clearance in the internal mechanism of the unit is taken up with a fraction of an inch of pedal movement and the unit automatically reverts to stock leverage. In the event of failure of the low pressure cup, the unit would fail in exactly the same manner as a stock unit under the same circumstances.

JEB power brake units sell for \$12.95, plus \$1.00 for a special actuating rod, and they come completely assembled, ready for installation in your master cylinder. However, a fellow who doesn't understand how the brake system of his car functions shouldn't try to install the unit by himself. The brake system must be bled of air after the unit has been installed, and although this is the same procedure that must be gone through after any work has been done on a master cylinder, a fellow must know what he is doing or he may goof and louse up his brakes. But the simplicity of the installation makes it a quick job for an experienced brake man, making it an inexpensive installation in most cars.

stoneplacement of components shown in photo at left with JEB unit results in changed ania ne-up: Plug, spring, JEB unit, clip, and cup. Washer is discarded completely.





Special brand of grille consists of two '54 Buick Bumpers and bullets, round rod center bars and seven '53 Merc teeth installed in the upper grille's cavity.



'54 Merc headlight rims were employed to french headlights. Note the scoops that are frenched to the topsides of fenders.





Photos by Bob D'Olivio

The sharp appearance of Jerry's '51 cou is a fine example of Satan's Angels' stock trade. Club specializes in beautiful custon

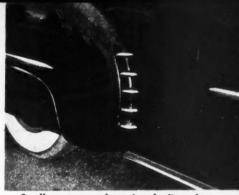


Bailon mixture of "Candy Apple" paint enhances cleverly disguised Chev. '56 DeSot taillights are found in rear fenders, capped and tunneled slightly. Bumper emanate from '59 Olds. Side trim remains stock. Body of car is lowered some six inch lers both fore and aft. Car is a steady about winner in the Northern California are need

EICAR

## STAR CHEV

from star-studded ranks of the Satan's Angels comes this Bailon-built skow performer



Small scoops were bewn into leading edge of rear fenders. Small diameter round rod was employed to french scoop's opening. The five trim teeth are from '53 Mercury.





be lerry worked hand in hand with Bailon's Custom Shop of Hayward, California, on metal work. Five months were needed to finish the car. Custom work totaled \$500.

## ENGINE SWAP:

Cadillac V8 for '53-'57 Studebaker



# SIMPLE STUDILLAC

By Bob Pendergast

INTRODUCTION OF THE Studebaker V8 engine was followed very shortly by the hot rodders' discovery that the new "little" V8 engine not only looked a lot like the Cadillac V8, but also was very similar in weight. Since the Stude displaced a mere 232 cubic inches, and developed but 120 horses, the substitution of a Caddie became very attractive. The Cad, by contrast, developed 160 horses and displaced 331 cubic inches at that time. The potential all-around performance increase offered by this swap was obvious—in fact, one New York firm offered a "package deal" for a while, where you could buy a brand new Stude coupe from them equipped with an equally fresh Cadillac V8 engine installed.

Since Stude's introduction of their "slip-

pery" body style in '53, many different me ods of installing Cad engines in these of have been tried, using a wide variety of tra Thi mission types. The version presented on '90 following three pages is the simplest, easy and least expensive way of getting a dengine into a Studebaker we've encounted to date. The swap was accomplished by its owner of the car, Don Purviance of Veni California, in his spare time using a micromum of tools and operating within a buddew of \$325 for the entire job — including the purchase of the Cadillac engine.

Tools and special services required for installation are revealed in the captions their need crops-up in the step-by-step phosequence that follows. Let's go!

C



Trial filting of Cad engine in Stude compartment showed stock supports would work if shortened and re-drilled. Hacksaw may sub for torch here; drill may be rented. '36 Ford mount pads used, with stock Cad brackets. Chain hoist is a must; may be rented, or war-surplus ½-ton bomb hoist may be purchased reasonably. All welding may be done at once after parts are measured and cut to fit.

Photos by Eric Rickman

Cragar bell housing adaptor connects Cad to '49-'51 Ford column-shift transmission. Cad clutch is used with 11" Chrysler disc, after 3/4" is me cut off forward part of hub. tre This last can be done by any garage having a small lathe. otch fork and throwout bearng are '52 Ford. 3" extension is bolted to throwout arm to align it with altered bell en mi crank, which must be bent to ew position for use with Cad.



CONTINUED

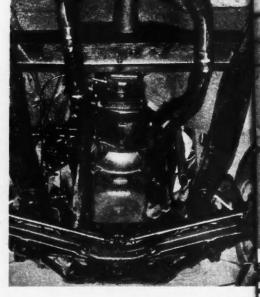


## ENGINE SWAP:

continued

Transmission shifting linkage need not be altered, and Stubaker clutch bell crank shaft is attached to Cad bell housing by simply relocating original support — but steering linkage causes interference with left exhaust maniford Answer is to have headers installed, splitting left side into one pipe for front two ports; additional special outlet for rear one. Any good muffler shop can handle this.

Ford trans uses stock rear mount, bolted onto special rear cross-member made of 1 ¾" by 4" channel iron, ¼" thick. This can be measured, cut to fit, installed, drilled for the trans mount, then the car is towed to the nearest welding shop for permanent attachment. Driveshaft conversion is simple; Ford slips over Stude with sliding fit after both are cut, then welded-up tight.



Problem of reversing direction of throttle linkage from Stude, which pulls rod to open throttle, to Cad, which pushes, is simply solved. Use of Fenton #DLK-149 reverse linkage unit makes short work of knotty problem facing any engine swappers. No elecnaniforical system problem is created as Cad engines were 6 volt until '53 - this particular installation used a '49, so no changes were required at all.

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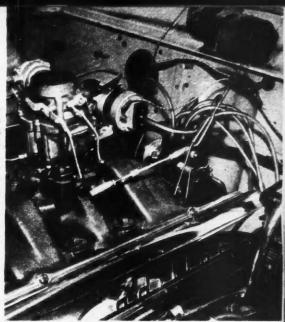
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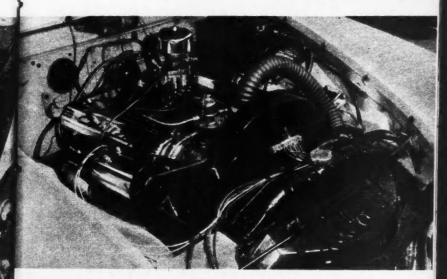
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tack radiator may be used by chopping Cad fan to fit Stude shroud. Voit flex hoses ake relocated radiator outlets and inlets unnecessary. Traction Masters are recomrended as aid to longer life for Stude rear-end if much dragging is to be done. RAPULY, 1957 33



Jerry Hanson

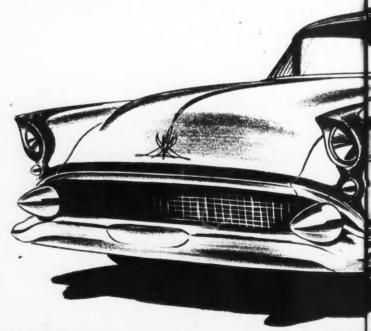


Bob Crowell

JERRY'S CUSTOM SHOP

## RESTYLES

THE '54 OLDSMOBILE





owell

Ray Cook

SOMEWHERE DURING the process of restyling the most popular models that yearly are adopted by the nation's young custom-car fraternity we somehow slipped-up and completely omitted the '54 Oldsmobile. With assistance from Jerry's Custom Shop of Pacific Beach, California, we plan to remedy the oversight right now. Jerry's talents for customizing speak for themselves when viewing the cleverly disguised Olds hardrop found here and on the next page.

#### BODY MODIFICATIONS

Body modifications, like on many semi-customs, were kept to a minimum thus allowing



detailed attention to grille, headlights and taillights. First torch work consisted of removing door-handles and converting the latch mechanism over to the widely accepted electrical operated solenoid system. The Oldsmobile's side trim was also discarded and replaced with '57 Ford spears that accentuate the window-dip in the belt line of the body. Augmenting appearance of the trim is a portion of expanded metal screen that is sandwiched between trim spears.

#### HOOD, GRILLE AND HEADLIGHT MODIFICATIONS

Up front Jerry employed standard trim removal operations to the hood eliminating all traces of trademark lettering and medallions. The grille-cavity was completely gutted to make way for a section of expanded metal that is installed running the full width of the grille's opening. '55 Buick bumper guards give a flashy touch to the corners of the grille. Front bumper remains stock. Frenched and shaded headlight innovation was achieved by using stock Olds rims, then building up shades from sheet metal. Notice that the shade's design completely encircles the headlights lending a neat tunneled effect. A small peak extends from the bottom of the shades and blends into the frenched-in parking lights.

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#### REAR FENDER AND TAILLIGHT MODIFICATIONS

Major surgery took place in the Oldsmobile's taillight department. All stock components were removed and fender tips extended some eight inches with sheet metal accomodating two '55 Oldsmobile taillight lenses, A



small section of expanded metal screen is placed between the two lenses for a special effect. Exterior deck lid trim has been removed and trunk lid is now actuated by an electrical push-button system. Small cut-out areas were relieved from the lower edge of the bumper allowing the exhaust tips to protude slightly. Bumper guards were also given the "deep six" achieving the smooth custom look. The low silhouette of the car is largely due to the six inch lowering performed both fore and aft. Accessory trim consists of '55 Oldsmobile rear fender skirts, chopped radio antenna installed in the left front fender and two specially built hub-caps for the front wheels. They are '53 Cadillac wheel covers with '54 Oldsmobile taillight lenses serving as center pieces. Jerry's finishing touch for the hardtop was the scalloped two-tone paint job and contrasting striping.

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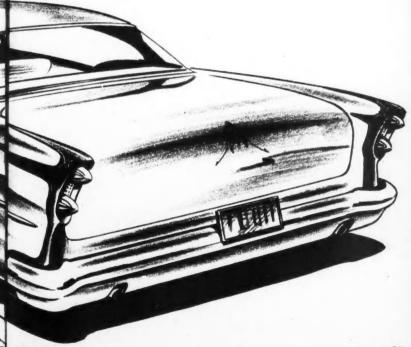
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PARTS AND PRICE LI	Labor	Perte
Mold and remove recess in	40.00	
Moid dock lid and install electrical polonoid push	15.00	
berfor system forther system french stock headilight rises and build special sheday; mold and post from holton of headilights; mold fewer griffs extension  Build and install expanded	15.00	
mold and pook from bottom of bondlights; mold lawar		
Build and install expended	115.00	
Marie Control of the	14.00	8.00
electrical posts button system	50.00	18.50
Lower front and rear of car	55.00	42.50
eix inches Franch '55 Oldsmobile taillights	135.00	
and extend fenders	\$0.00 25.00	47.40
feeder skirts	18.00	25.00
hobops ('53 Gad)	20.00	20.00
haboups (*53 Cod) lastaff chapped radio antenna Banearo repr back up lights Two-tone paint jeb and striping	15.00	-
	790.00	188.50
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JULY, 1957

#### COVER CAR

# Chieftain owners don war paint for strip, street & show



#### PONTIACS



JU



New on the customizing scene is the use of '56 Olds taillight lenses. Lenses are neatly adapted to rear fenders in special cut-out sections matching the lens contour.



Jack's Top Shop is credited for detailed interior. Color combo is pink, grey and white. Power is applied through '37 LaSalle gearbox. Note the competition dashboard.

a pair



Headlight rims are '56 Cad, grille '54 Chev. Hood has been filled with sheetmetal. Chrome strips are from '49 Pont. Cerny's Custom Shop did all metal work.



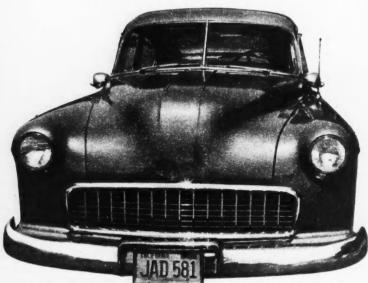
Big 377 cubic inch Cad powerplant features Thomas magnesium racing pistons and rocker arms, Iskenderian Bigelow cam kit, Grant rings, dual Buich Stromberg carbs, Weiand intake manifold, Spalding Flame-thrower ignitor, Advance exhaust. CONTINUED



Frank Castro's '49 Pontiac offers us a graphic illustration of what we could expect if we finished the Pontiac off with a slightly more conservative hick as compared to Lebrhass' warrior featured on previous pages.

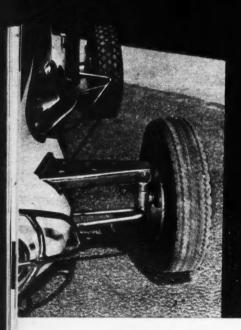
### PONTIACS a pair

continued



Another styling gimmick for the Pontiac's bood is Castro's route of only nosing the forward portion. Twin peaks are retained but are diminished-off into the bood at the front. Stock chrome trim strips are used along the top to carry peaked motif.





# QUARTER MIDGET CHASSIS

Springing The Small Sprints

UARTER MIDGET RACING is just like any other kind in one major respect -everybody wants to win! Going faster so as to win depends on the car just as much as the driver, of course, but since the Q.M. "handlers" are all under twelve years of age, most car-owners are reluctant to turn them loose with an abundance of horsepower-and rightly so. The fact that the car-owner is usually the father of the driver is understandably the reason for this concern. But what's dad to do when junior gets shut-off at the local oval week after week, and begins to think his old man would make a better piano tuner than a speed tuner? That's when something has to give - but before reaching for the illegal nitro can let's take a look at the one thing you can do to a track car that not only makes it get around faster, but also makes it a safer car to drive, in spite of quicker lap-times.

Suspension is the word for the most neglected field of endeavor left open to the Quarter Midget fancier. Correctly set-up, proper suspension can make a slow, unsafe car into a faster car that's far safer for it's youthful chauffeur to drive. Whether conventional design, such as the time-honored transverse leaf spring with beam axle, or a new and radi-

cal independent design sprung with torsion bars, matters not nearly so much as how well the design was carried-out. There's still no substitute for the doing the job right - and the next three pages are here to show you how it's done. The first page of the series depicts the old standby, the beam axle with transverse leaf spring, in just a few of it's many possible variations as available from 1/4 midget equipment manufacturers, You'll note that the top photo shows an axle with no spring at all - a simple center-point pivot allows vertical movement of the front wheels individually, but remains firm when a bump is struck in unison. The remainder of the shots on the opposite page show various spring mounting methods; the conventional doubleshackle set-up, and it's track-bred cousin with the spring pin-mounted sans shackle on the inboard side of the course to minimize sidesway. On the two pages following you'll find some of the more ingenious "backyard special" systems that incorporate torsion bars and other unique methods of suspension.

Whether you're a Q.M. fan or not, perusal of the suspension showcase presented here will give you an idea of how a well set-up front end should look — check and see.



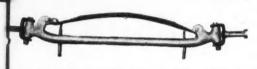
Fabricated "I" beam from steel, all welded seams. Available from Wablborg 1/4 Midgets, 3103 Pacific Coast Highway, Torrance, Calif. Cost: \$16.00 completer, chromed, \$22,50.



Cast aluminum beat treated; tempered steel spring. Available from Speedway ¼ Midget. 11111 Chandler Boulevard, North Hollywood, California. Cost \$30.00, chromed \$35.00.



Steel tube axle, fabricated steel end sections and tempered steel spring. Available from Mantz 1/4 Midgets, 6359 Florence Avenue, Bell Gardens, Calif. Cost: \$26.00, cbromed \$32.00.



Cast aluminum alloy axle, tempered steel spring. Available from Viking-Craft, 356 Juliana Street, Anahiem, California. Cost: \$42.45 complete; with all the components chromed \$47.45.



Cast aluminum alloy axle, tempered steel spring. Available from Ans-Craft, 6422 South Normamies Avenue, Los Angeles, Calif. All Ans-craft axles are sold completely chromed for \$37.00.



Tubular steel axle, tempered steel spring. Available from Safe 14 Midget, 5561 Valley Boulevard, Los Angeles 32, California. Cost: \$37.00; all components cbromed \$43.00.



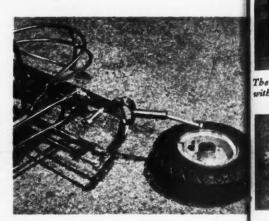
Steel (beavy duty) tube axle, tempered steel spring. Available from California Racers, 4603 Manbattan Beach Boulevard, Lawndale, California. Cost \$29.50; chrome plated \$39.10.

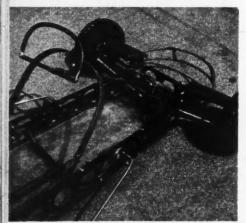
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# QUARTER MIDGET CHASSIS continued

Another variation of transverse suspension is this method of straight tube axle with spring mounted aft. Being that axle is straight this spring location offers needed chassis lowness.





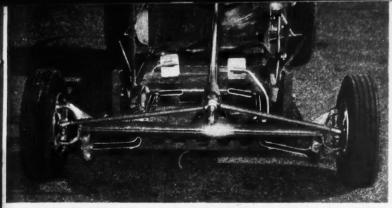
"Lil' Indy" 1/4 midget manufacturers feature front torsion bar suspension system incorporated with independent A-arms.



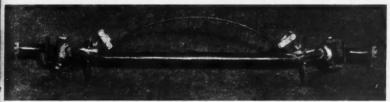
Simplest front end suspension system is this leading quarterelliptic leaf spring set up. Springs double in function, serve as radius rods as well as the front suspension medium.

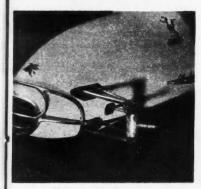
pass

seat



The "Kurtis-Kraft" 1/4 midgets feature the longitudinal torsion bars in combination with straight tube axle. Also notice unique steering arrangement in front of the axle.





Similar to coil spring system used on most passenger cars; suspension features bicycle teat spring and small tubular A-frames.

Similar to manufactured beam axle, here's one hackyard ¼ midget fancier's solution; made up from various sizes of tubing and metal iron strap securely welded together.

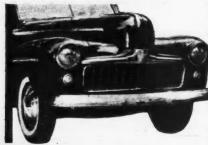
Answer to a lightweight system can be seen here with small diameter tubing used from upper section of A-frame; lower Aarm includes torsion bar actuating lever.





# "Egg-crate" grille styling of '55 Chev proves harmonious to many makes and models

'48 Ford and Chev grille make neat combo. Lip har of Ford is retained. Work consists mainly of re-paneling at outer edges of the grille work. Since the '48 Model parallels that of all the '42.'48 Fords, this easy combination would work out very nicely on all the models mentioned.





RIGHT • Building a special oval grille opening for just the center section of the '55 Chev grille is an accepted practise for many customs, '53-'54 Chev shown here.

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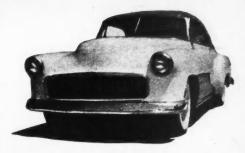
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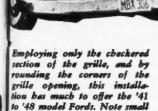
gril

ross

The '49-'52 Chevs really come on with '55 grille appearance. Grille component fills frontal area perfectly and installation requires moderate work. (See Car Craft, July '56 for details.)

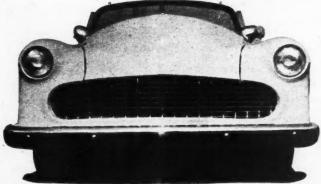
A combination of extra paneling accompanies this unusual installation. With grille frame and center panel frenched to body, grille gives special touch.



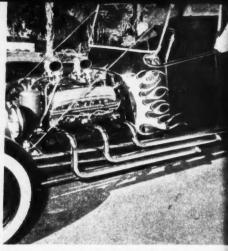


round rod used for framing.







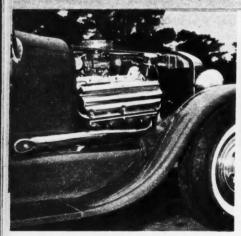


V8 engines having three-port exhaust heads lend themselves well to the tapered collector header with a removable cap.

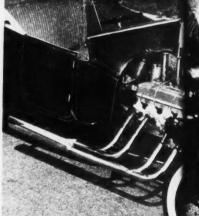
Another method of handling the three-port beads is individual stacks, each capped with a collector for each bank underneath

# GRAB BAG

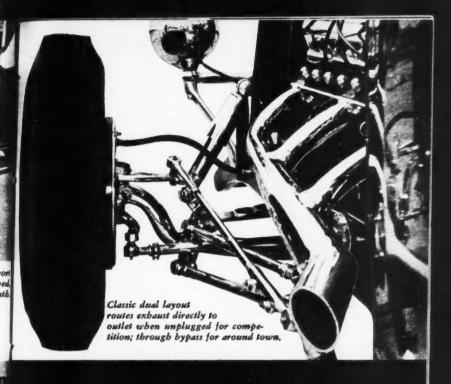
a right set of stacks for both street an competition demands the utmost



Fendered cars offer ready concealment for beader bypass beneath running board pan.



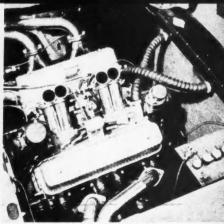
Large diameter external collector provide moth place for the easily removed muffler appear



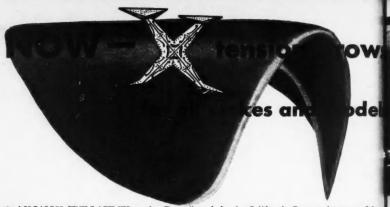
#### APPEARANCE AND EFFICIENCY



nother variation is flange that may be apped, or used for extension mounting.



Hedman "Hedders" feature 180° firing order; may use same arrangement as at left.



RASICALLY, THE LATE "X-tension Brows" made by the California Custom Accessory Man facturing Company, are designed to fit only the '49-'51 Fords and '53-'54 Chevrolets. Wh many custom enthusiasts don't realize is that this widely accepted hooded headlight shade can be easily modified to fit on just about any make or model, providing the car possesses early mod fender styling (eariler than '55). Alterations consists of merely trimming the "X-tension Brow to fit any model fender, which is accomplished easily with a pair of tin snips. One item of impo tance; before ordering takes place, is the selection of what type "X-tension Brow" you should purchase. As we mentioned earlier, there are two models; one designed to fit '49-'51 Fords a the other '53-'54 Chevrolets. If your car possesses a fender line similar to that of the '49-'51 Fo which has a considerable amount of taper from the top of the fender down over the front to the edge of the headlight rim, then the Ford model is for you. If your car's front fender style is close to that of the '53-'54 Chevrolet which has a very moderate amount of fender curvature to t edge of the headlight rim, then you should ask for the Chev model. With these two items mind, all that is necessary for you to do to come up with a very stylish headlight shade for you own car is to follow through on the following photo story for the completed job. If your loa automotive accessory store does not stock the \$19.95 per pair "X-tension Brows," then direct your inquiries to Eastern Auto, 3319 CC South Grand Avenue, Los Angeles 7, California.



1. When using the "X-tension Brow," rims can either be frenched in or left stock.



2. Story features frenched rims, Remove Morims and bucket. Trim bucket as shown be si-

#### ACCESSORY OF THE MONTH



Photos by George Barris



Mount headlight unit from underneath be side of fender. Braze rim to the fender.



4. "X-tension Brow" is placed in position and scribed off for trimming alterations.

CONTINUED

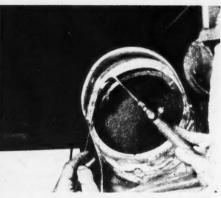
1 17 2101



5. Tin snips are used to trim "Brow" to the correct size. Inside lip is also trimmed,



6. After correct fit is achieved, "Bre 1. Alis solidly brazed to the fender and release



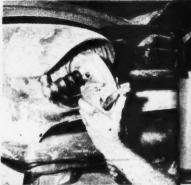
7. Undernoath side of the "Brow" is then also brazed securely to the headlight rim,



8. Low spots and warped areas are world3. A out to perfection using dolly and bammurful



9. An electric grinder is employed to grind surface smooth and remove paint.



10. Underneath side is given same grinds. A ing treatment, smoothing the brazed aredry.



Bro 1. All brazed areas are now thoroughly declared with rotary brush and hand drill.



12. Tin the surface thoroughly. Melt stick lead onto fender spreading with a paddle.



rill3. A vixen file is now used to file the murface to perfection. Check the side peak.



14. The bare metal surface is now sanded. Feather-edge all the surrounding paint.



15. Apply metal prep to surface and wipe try. Next, apply wax and grease remover.



16. Prime fender, blocksand, then apply finish coat. Insert headlight from rear.

# OTTEST ACCESSORY BUYS for 57 from JCWHITNEYGO **DUPLI-CHROME**



Local Carlos earlier models of the Carlos and the Carlos of the Carlos and distinctive teach of the Carlos and thinks affile—positive letter prints thinks in 2 Beer Medicin Chronical SS-37 Mercury 60 Chronical SS-37 Mercury 60 Chronical SS-32 Mercu



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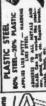






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#### WHAT'S YOU BLEM



**Bob Pendergast** 

#### GEARING FOR GO

Dear Bob:

I have a full-house Merc flathead to be stalled in a '34 Ford coupe, so I thought lin better dig the latest know-how on gearing rear-end and trans. Could you tell me the b for street use, plus the "Sunday "bash?"

- Douglas Sneesby, Casper, Wyoming

I must presume that by full-house you me your under-head-valve Merc has been given! full treatment, including going all the way Increased bore and stroke. If this is the ca sufficient low-speed torque should be availed to use just two gears for covering the stand start quarter mile in a hurry. A gas-burning # head of large dimensions and properly gear for the course should pull your medium-weig (approx. 2500 lbs.) coupe up to a termi speed of 100 mph in the quarter. To turn engine 6,000 rpm at the end of the strip, wh is essential to get the low-end torque needed, final-drive ratio of 5.60 to 1 is required 8.00x15 slicks or tires of equivalent 31" dia eter are used. A 5.60 ratio ring and pinion, available, would be expensive and impractic for street use -but - use of 26 tooth "Zephy gears in your transmission (relation to dire speed 1.576) and the 3.54 ring and pini made by Ford for the '34 will give you appro imately 5.60 to 1 when running in second. Ti trans-rear end combo would allow you to geared properly for the drags, and practical for road use.

WHY NOT A "Y"

TI ear Bob:

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I want to install dual carbs on my '32 Ford I have made a "Y" adaptor and am wonring if I will gain any power or not?

- Bob Townsend. Castlegar, B.C., Canada

fortunately a "Y" adapter on a stock manid provides only the bad part of dual carburen, and none of the good. Doubling the availle venturi area on an otherwise stock inducn system cuts the velocity through the venturil any given engine speed or load in half, relting in decreased low-speed torque. With a na-fide dual intake manifold, this loss is offset a positive torque gain in the upper rpm nge, which means more useable horsepower allable since horsepower is merely an arbiry measurement of torque multiplied by rpm ough a factor. With a "Y," you get the loss the bottom, but not the gain at the top, bese you really aren't opening up the engine the surrounding atmosphere as you are with a o be roperly designed manifold, but instead, merely ught ling more carburetion onto a system of plumbring a already barely adequate to handle what the bas provided originally.

CONTINUED

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By Carl Kohler

5 110

#### VHAT'S YOUR ROBLEM? continued

#### AFTER CARBS WHAT

ear Bob:

n"

I have a '52 Chev with triple carburetors, at it doesn't seem to help much. What can I d to get the full effect from them?

> - Tony Conger, Shelbyville, Indiana

ce you don't mention any additional speed eipment, we'll assume the remainder of the gine is stock - and in good condition. Three buretors are one too many for a stock Chev 6, less they are smaller than those usually emyed. To take advantage of your present carretors and manifold set-up, you must increase r engine's demands for fuel-air mixture oughout the entire rpm range. The only way do this is to increase its cubic inch displacent. '52 Chevs have a standard bore of 31/2", less Powerglide equipped, in which case they 3 9/16". An 1/8" overbore in either case Il increase the displacement to the safe maxim. Use of "compression raiser" pistons, availe from several firms, in place of the stock placement type items provides an additional ver bonus. The only alternative is to replace triple with a dual, using two single-throat buretors of approximately 1 5/32" venturil ch as the Stromberg No. 380269. In any case, set of Hi-Lift rocker arms will help increase or engine's breathing capacity and ability to ke use of any additional carburation, Installon of a set of these will provide immediate

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#### HAT'S YOUR ROBLEM? continued

from the lack of low-speed torque you're experiencing.

#### McCULLOCH QUERY

ar Bob:

115

I have a '57 Olds Super 88 with the 277 engine, and would like to install the Mchilloch supercharger. The advice I've been ming from different concerns is that the owers on the market are swell for engines to about 275 cubic inches. But mine is 371 bic inches, and I've been told that the blowwould rob me of most of power I really int. I'd sure appreciate advice on this coning matter.

- Howie Salzman, Chicago, Illinois

Culloch superchargers are currently being inalled on 4-cycle Diesel engines of 743 cubic h displacement, with the blower control set to wide approximately 4 1/2 pounds boost at the gine's air manifold inlet, McCulloch is guarsoing these installations for 50,000 miles. imittedly, the blower is well past the peak of efficiency curve on an engine of this size at it boost pressure, in so far as horsepower rered to generate a boost of that figure is conmed. But — talk to any Diesel truck mechanic, he'll tell you the fussiest people in the world n diesel trucks, If it's good enough for them, should satisfy us relatively uncritical radders!

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by

Joe Bailon BAILON'S CUSTOM SHOP

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don

#### '47 CHEV PROBLEMS

Dear Joe:

I am in the process of customizing my Chev ragtop and I would like to replace i trunk lid hinges with a type that fit insi the trunk compartment. Could you tell wh type of hinges I could use? Also I would li to lower the rear of the car a conservation of the amount utilizing standard lowering blod What size do you suggest for street use? Alor with lowering the rear of the car I am al planning on using smaller tires up front make the car appear level. Could you tell i what tire size to use, or do you suggest I about it in a different manner?

> - Leonard Strange Brighton, Mass.

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use '40-'41 Plymouth trunk hinges to do the ob you refer to, Leonard. You can usually pur-hase the hinges in any auto wrecking yard for nominal cost. In the very near future CAR BAFT plans a story on how to do this very job, hich, if you haven't already done the job, hould help you and other readers who have mitten in for information on this type of modiation. I suggest that you use two inch lowerblocks at the rear of your car, and up front, small tire size like you plan for that level pearance. You also could employ a front end wering kit or drop spindle supports up front, hich are new sold by leading automotive acsssory stores,

#### GRILLE FOR '49-'52 CHEVS

Dear Ioe:

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I

I have a '50 Chevrolet and would like to astall a '55 Ford grille checkered center secion. Would the installation be possible withut too much modification? What would be he procedure? If you don't think too much f this idea, what would you suggest for a lifferent and unusual grille piece for my car?

- J. Dingle Tormey Crockett, Calif.

don't think you would be happy with the '55 II e ord grille assembly in your Chev, Mr. Dingle, don't think this component would lend itself the opening, I suggest that you install a '55

CONTINUED



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#### CUSTOM QUERIES continued

Chevrolet grille assembly in your '50 Chev. an idea of what the finished appearance we look like, turn to page 46 of this issue. O CRAFT did a step-by-step story on this y Installation in the July '56 issue. The issue available and can be ordered by send twenty-five cents, specify issue, to our & Issue Department.

#### HEADLIGHT HASSELS

Dear Joe:

Please explain to me how I can french the headlights on my '50 Ford, utilizing the stor rims, and still be able to remove and repla the seal beam unit if necessary?

> - Harold Clark Kingsville, Texas

First remove the complete headlight unit a insert it from the rear of the opening, fra underneath the fender, Trim approximately inch off the back edge of the stock headligh rim then place rim into position and tack we it to fender. Finish rim to fender by brazi seam solid. Grind surface smooth with an ele tric grinder, tin, lead, then finish surface to pe fection with vixen file. The seal beam units m be changed at anytime, but must be remove and reinstalled from the rear of the headlig opening underneath side of fenders.

#### COMING ATTRACTION

Zeroing-in her movie camera, saucy Shirle Beck of Los Angeles previews a featur in your next Car Craft you won't wa to miss - "Make Your Car a Movie Star!" Coming-up in the very next issue, this article will reveal the fascinating story of bou owners of customs and rods everywhere can get the recognition their cars deserve through the mediums of motion picture and television. Your own unusual rod of custom can make the grade - you'll find out how when you read all about it in the August Car Craft, on sale July 10 COMING ATTRACTION:



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